



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/087,095

03/01/2002

Hideaki Ono

FUJZ 19.484

1978

26304

7590

08/06/2008

KATTEN MUCHIN ROSENMAN LLP
575 MADISON AVENUE
NEW YORK, NY 10022-2585

EXAMINER

SALAD, ABDULLAHI ELM I

ART UNIT

PAPER NUMBER

2157

MAIL DATE

DELIVERY MODE

08/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/087,095	Applicant(s) ONO ET AL.	
	Examiner Salad Abdullahi	Art Unit 2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The Amendment on filed 4/25/2008 has been received and made of record.
2. Claims 1-11 and 14-16 are pending.
3. Applicant's argument with respect to claims 1-11 and 14-16, has been fully considered but are not persuasive for the following reason.

Applicant alleges "Rajalme fails to teach extracting identifying information specific to a mobile IP terminal from an arrival packet having a destination designated to a plurality of servers with a representative address; and determining a single destination server, from among the plurality of servers corresponding to the destination of the packet, to be connected based on the identifying information, and rewriting the destination of the packet to be changed into the destination server from the plurality of servers, and to be transmitted to the destination server, as claimed in claim 1, and similarly recited in claims 5 and 6".

Examiner respectfully disagrees ,because Rajalme discloses replacing means may be provided to replace a care-of address in a source address field of said matching packet with a the home address as specified in said matching binding cache entry and routing means may be provided to route the packet to a correspondent node specified by the destination address in the packet. To this effect, the contents of the incoming packet are modified in order to replace the care-of address in the source address field with the home address of the mobile node 1 as specified by either the binding cache entry or a possible mobile IP home address option.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9, and 11, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajahalme U.S. Patent Application Publication No. 2004/0181603 A1 [hereinafter Rajahalme] in view of Sain-Hilaire et al., U.S. Patent Application Publication No. 2006/0083209 [hereinafter Sain-Hilaire].

As per claim 1, Rajahalme discloses a load balancer (see fig. 1, element 5 and paragraph 0043) comprising:

extracting means identifying information specific to a mobile IP terminal from an arrival packet having a destination designated to a plurality of servers with a representative address (see fig. 1 and paragraph 0041); and

means for determining a single destination server, from plurality of servers corresponding to a destination of the packet to be connected based on the identifying information and rewriting the destination of the packet to be changed into the destination server from the plurality of servers, and to be transmitted to the destination server (see fig. 1 and paragraph 0047 and 0049); and

wherein the destination server is associated with the mobile IP terminal according to a load balancing algorithm (see paragraph 0047); and

Rajahalme is silent regarding: wherein the mobile terminal can communicate with the single destination server before mad after the mobile IP terminal moves from one network to another network.

Sain-Hilaire in an analogous art discloses a system where a mobile IP node roams between internal network and external network wherein the mobile terminal can communicate with the single destination server (home agent 210) before mad after the mobile IP terminal moves from one network to another network (see paragraph 0017 and 0032). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention presented with teaching Rajahalme to incorporate the teachings of Sain-Hilaire such as enabling the mobile terminal to communicate with the single destination server (home agent 24) before mad after the mobile IP terminal moves from one network to another network to provide/maintain uninterrupted communication between the mobile-device and the server as the mobile-device moves from one network location (28a) to another location (28n).

As per claim 2, Rajahalme discloses the load balancer as claimed in claim 1 wherein the identifying information comprises a home address included in a destination option header of the packet(see paragraph 0034).

As per claim 3, Rajahalme discloses the load balancer as claimed in claim 1 wherein the identifying information is prescribed in predetermined lower bits of a source address of a packet utilizing a stateless address configuration method (see paragraph 0023).

Art Unit: 2157

As per claim 4, Rajahalme discloses the load balancer as claimed in claim 1 wherein the identifying information comprises a security parameter index of the packet if encrypted (see paragraph 0020).

As per claim 5, Rajahalme discloses a load balancer comprising:

extracting means identifying information specific to a mobile IP terminal from an arrival packet having a destination designated to a plurality of servers with a representative address(see paragraph 0047);

requesting means requesting a home agent to notify a change of a care-of address when the care-of address of a terminal has changed upon an arrival of a first packet addressed to a server (see paragraphs 041 and 0047-048); and

means for determining a destination server to be connected by regarding the notified care-of address as identifying information, the destination server corresponding to a destination of the packet (see fig. 1 and paragraph 0041 and 0047);and

wherein the destination server is associated with the mobile IP terminal according to a load balancing algorithm, and rewriting the destination of the packet to be changed into the destination server from the plurality of servers, and to be transmitted to the destination server (see fig. 1 and paragraphs 0047-0048).

Rajahalme is silent regarding: wherein the mobile terminal can communicate with the single destination server before mad after the mobile IP terminal moves from one network to another network.

Sain-Hilaire in an analogous art discloses a system where a mobile IP node roams between internal network and external network wherein the mobile terminal can communicate with the single destination server (home agent 210) before and after the mobile IP terminal moves from one network to another network (see paragraph 0017 and 0032). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention presented with teaching Rajahalme to incorporate the teachings of Sain-Hilaire such as enabling the mobile terminal to communicate with the single destination server (home agent 24) before and after the mobile IP terminal moves from one network to another network to provide/maintain uninterrupted communication between the mobile-device and the server as the mobile-device moves from one network location (28a) to another location (28n).

As per claim 6, Rajahalme discloses a load balancer (see fig. 1, element 5 and paragraph 0043) comprising:

extracting means identifying information specific to a mobile IP terminal from an arrival packet having a destination designated to a plurality of servers with a representative address(see paragraph 0047);

means for requesting a terminal to notify a change of a care-of address when the care-of address of the terminal has changed upon an arrival of a first packet addressed to a server(see paragraphs 041 and 0047-048);

means for determining a single destination server to be connected by regarding the notified care-of address as identifying information, the destination server corresponding to a destination of the packet (see fig. 1 and paragraph 0041 and 0047); and wherein the destination server is associated with the mobile IP terminal according to a load balancing algorithm and rewriting the destination of the packet to be changed into the destination server from the plurality of servers, and to be transmitted to the destination server (see fig. 1 and paragraph 0047 and 0049); (see paragraph 0047-0048)

Rajahalme is silent regarding: wherein the mobile terminal can communicate with the single destination server before and after the mobile IP terminal moves from one network to another network.

Sain-Hilaire in an analogous art discloses a system where a mobile IP node roams between internal network and external network wherein the mobile terminal can communicate with the single destination server (home agent 210) before and after the mobile IP terminal moves from one network to another network (see paragraph 0017 and 0032). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention presented with teaching Rajahalme to incorporate the teachings of Sain-Hilaire such as enabling the mobile terminal to communicate with the single destination server (home agent 24) before and after the mobile IP terminal moves from one network to another network to provide/maintain uninterrupted communication between the mobile-device and the server as the mobile-device moves from one network location (28a) to another location (28n).

As per claim 7, Rajahalme discloses the load balancer as claimed in claim 2 wherein when the extracting means extract a packet transmitted from a home link upon an arrival of the packet and the packet does not have the destination option header, the determining means determine the destination server by regarding a source address of the packet as the identifying information (see paragraphs 0023).

As per claim 8, Rajahalme discloses the load balancer as claimed in claim 1 wherein the determining means are provided with a table for storing an address of the destination server having a source address associated with the care-of address as a retrieval key, thereby determining the destination server using the source address of the arrival packet(see paragraphs 0023).

As per claim 9, Rajahalme discloses the load balancer as claimed in claim 5 wherein the determining means are provided with a table for storing an address of the destination server having a source address associated with the care-of address as a retrieval key, thereby determining the destination server using the source address of the arrival packet, and the table prepares an entry with a new care-of address as a retrieval key when the new care-of address has been notified, and stores, as storing data, an address of the destination server stored as data of an entry of an old care-of address (see paragraphs 0023 and 0047).

As per claim 11, Rajahalme discloses the load balancer as claimed in claim 1 wherein a home agent of a mobile IP terminal as a substitute for the server is made a destination to be connected (see paragraph 0045).

As per claim 15, Rajahalme discloses the load balancer as claimed in claim 6 wherein the determining means are provided with a table (inherent) for storing an address of the destination server having a source address associated with the care-of address as a retrieval key, thereby determining the destination server using the source address of the arrival packet, and the table prepares an entry with a new care-of address as a retrieval key when the new care-of address has been notified, and stores, as storing data, an address of the destination server stored as data of an entry of an old care-of address(see paragraphs 0023 and 0047).

5. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajahalme and Sain-Hilaire as applied to claim 1 further in view of Luke et al., U.S. Patent publication No. 2004/0133634[hereinafter Luke].

As claims 10 and 16, Rajahalme and Sain-Hilaire disclose substantial features of the claimed invention as discussed above with respect to claim 1,

Rajahalme and Sain-Hilaire are silent regarding: wherein the determining means store a lifetime in the data of the entry, periodically decrement the lifetime, update the lifetime

Art Unit: 2157

every time a packet using the entry has arrived, and invalidate the entry upon expiration of the lifetime.

Luke, discloses a time period based flow load balancing including the step of wherein the determining means store a lifetime in the data of the entry, periodically decrement the lifetime, update the lifetime every time a packet using the entry has arrived, and invalidate the entry upon expiration of the lifetime (see paragraph 0237, 0404 and 0543). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the teaching of Luke into the system of Rajahalme and Sain-Hilaire such that once the period of time for an IP address has expired an updated balance decision can be made in the background and a new balanced server target be selected.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salad E Abdullahi whose telephone number is 571-272-4009. The examiner can normally be reached on 8:30 - 5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is **571-272-8300**.

Art Unit: 2157

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Salad Abdullahi/
Primary Examiner, Art Unit 2157